PTO

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	:	**BOX PATENT APPLICATION**
Olivier DUCREUX et al.	:	Examiner: Unassigned
Serial No.: Unassigned	:	Group Art Unit: Unassigned
Filed: August 24, 2001	:	

For: PROCESS COMBINING HYDROISOMERISATION AND SEPARATION USING A ZEOLITIC ADSORBENT WITH A MIXED STRUCTURE FOR THE PRODUCTION OF HIGH OCTANE NUMBER GASOLINES

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination, Applicants wish to amend the above-identified application as indicated below:

IN THE ABSTRACT

Please delete the existing abstract and replace with the attached Abstract of the Disclosure.

IN THE CLAIMS

Please cancel claims 3-22 without prejudice or disclaimer.

Please add the following new claims:

– 23. A process according to claim 1, wherein said zeolitic adsorbent in the separation section is a zeolite with structure type EUO.

24. A process according to claim 1, wherein said zeolitic adsorbent in the separation section is a zeolite with structure type NES.

25. A process according to claim 1, wherein said zeolitic adsorbent in the separation section is a zeolite with structure type MWW.

26. A process according to claim 1, wherein said zeolitic adsorbent in the separation section is a NU-85 zeolite.

27. A process according to claim 1, wherein said zeolitic adsorbent in the separation section is a NU-86 zeolite.

28. A process according to claim 1, wherein said zeolitic adsorbent comprises a zeolite with a EUO, NES, or MWW structure, or an NU-85 or NU-86 zeolite, said zeolitic adsorbent being mixed with zeolite type LTA.

29. A process according to claim 1, comprising at least one hydroisomerisation section (2) and at least one adsorption separation section (4), in which the hydroisomerisation section (2) comprises at least one reactor, the separation section (4) comprises at least one unit and produces at least two fluxes, a first flux (8, 18) that is rich in dibranched and tribranched paraffins, optionally in naphthenes and aromatics, which is sent to the gasoline pool, and a second flux (7, 9) that is rich in linear and monobranched paraffins that is recycled to the inlet to the hydroisomerisation section (2).

30. A process according to claim 1, comprising at least two hydroisomerisation sections (2, 3) and at least one separation section (4), in which the separation section produces three fluxes, a first flux (8, 18, 28, 38) that is rich in dibranched and tribranched paraffins, optionally in naphthenes and aromatic compounds that is sent to the gasoline pool, a second flux (11, 16, 20, 24, 30, 36) that is rich in linear paraffins that is recycled to the inlet to the first hydroisomerisation section and at third flux (12, 21, 26, 34, 35, 39) that is rich in monobranched paraffins that is recycled to the inlet to the second hydroisomerisation section (3).

31. A process according to claim 30, wherein the whole of the effluent from the first hydroisomerisation (2) section traverses the second section (3).

32. A process according to claim 31, wherein the separation section (4) is located downstream of the hydroisomerisation sections (2, 3), the feed (1) is mixed with the recycle of paraffins (30) from the separation section (4), the resulting mixture (33) is sent to the first hydroisomerisation section (2), the effluent leaving the first hydroisomerisation section is mixed with the flux that is rich in monobranched paraffins (39) from the separation section (4), then the mixture is sent to the second hydroisomerisation section (3), and the effluent (37) from said latter section is sent to the separation section (4).

33. A process according to claim 31, wherein the separation section (4) is located upstream of hydroisomerisation sections (2, 3), the feed (1) is mixed with the flux (14) from the second hydroisomerisation section (3), then the resulting mixture (23) is sent to the separation section (4), the linear paraffin-rich effluent (11) is sent to the first hydroisomerisation section (2), the monobranched paraffin-rich flux (12) from the section (4) for separating an effluent (13) from the first hydroisomerisation section (2) is added, and the ensemble is sent to the second hydroisomerisation section (3).

34. A process according to claim 30, wherein the effluents from the hydroisomerisation sections are sent to at least one separation section.

35. A process according to claim 1, characterized in that at least one light fraction is separated by distillation upstream or downstream of the hydroisomerisation (2, 3) and/or separation (4, 5) sections.

36. A process according to claim 1, wherein the feed contains a C5 cut and at least one deisopentaniser and/or at least one depentaniser is/are located upstream or downstream of the hydroisomerisation (2, 3) and/or separation (4, 5) sections.

37. A process according to claim 1, wherein the feed contains a C6 cut but contains no C5 cut, and at least one deisohexaniser is disposed upstream or downstream of the hydroisomerisation (2, 3) and/or separation (4, 5) sections.

38. A process according to claim 35, wherein the light fraction, or the isopentane and/or pentane and/or a mixture of the two, or hexane, act as an eluant for the adsorption separation section.

39. A process according to claim 1, butane and/or isobutane is used as an eluant for the adsorption separation section.

40. A process according to claim 36, wherein the resultant isopentane is sent to the gasoline pool.

41. A process according to claim 1, wherein hydroisomerisation is carried out at temperatures in the range 25°C to 450°C, at a pressure in the range 0.01 to 0.7 MPa, at a space velocity, measured in kg of feed per kg of catalyst per hour, in the range 0.5 to 2, and with a H_2/hydrocarbon mole ratio in the range 0.01 to 50.

42. A process according to claim 1, wherein separation is carried out at temperatures in the range 50°C to 450°C and at a pressure in the range 0.01 to 7 MPa. –

REMARKS

A principal purpose of this Preliminary Amendment is to remove multiply dependent claims, thereby facilitating examination and saving fees, Applicants reserving the right to reintroduce claims to cancelled combined subject matter. New claims 23-42 substantially correspond to cancelled claims 3-22. Claim 28, however is modified by introducing a Markush group of the adsorbents of claims 23-27.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version With Markings To Show Changes Made**".

Respectfully submitted,

I. William Millen (Reg. No. 19,544)
Attorney for Applicants

MILLEN, WHITE, ZELANO & BRANIGAN, P. C.
2200 Clarendon Boulevard, Suite 1400
Arlington, Virginia 22201
(703)812-5325
Internet address: millen@mwzb.com

Filed: August 24, 2001

IWM(pdr)K:\PET\1948\prel amend.wpd

ABSTRACT OF THE DISCLOSURE

For producing a gasoline stock with a high octane number, employed are at least one hydroisomerisation section and at least one section for adsorptively separating multibranched paraffins contained in a constituted by a C5 to C8 cut. The separation section contains at least one zeolitic adsorbent with a mixed structure with principal channels with openings defined by a ring containing 10 oxygen atoms and secondary channels with openings defined by a ring of at least 12 oxygen atoms, the secondary channels only being accessible to the feed to be separated via the principal channels.

Version With Markings To Show Changes Made

IN THE ABSTRACT

The abstract has been replaced with the attached Abstract of the Disclosure, therefore no marked-up version is necessary.

IN THE CLAIMS

Claims 3-22 have been cancelled.

Claims 23-42 have been added.